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Project Outline

Project Cryptonym or Subject: Special-Purpose Map Projections

Sub-Project Cryptonym or Identification: W.A.

Amendment No: W.A.

Originating Division: Geographic Research Area,
Office of Research and Reports

a. Office Head: Otto E. Guthe, Ext. 8895
b. Area Chief: [REDACTED] Ext. 4797
c. Monitor: [REDACTED] Ext. 4071
d. Case Officer: [REDACTED] Ext. 8887

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Target Area: W. A.

Type of Project: Cartographic research.

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Financial Mechanism: [REDACTED]

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Funds Requested: [REDACTED] for FY 1960 (to be available until project completion -- estimated completion date 31 December 1961).

Current Status: Rev.

1. Objective: Numerous requests from the Office of Communications and the DD/P which involve the plotting of data on unusual map projections for their proper and expedient presentation, are received by the Cartography Division, ORR. These special requests involve the drawing of great circle routes as straight lines, the determination of distances from selected points, the drawing of accurate circles around chosen centers, and the determination of centers for chosen circles in the analysis and presentation of selected intelligence data. None of these tasks can be performed at present without a large amount of plotting and improvisation to adjust these figures to the inadequate projections now at hand. The present procedure is dictated by the immediate need

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for the specific intelligence support and the lack of the special projections that would enable the Division to accomplish the tasks quickly, economically, and with a higher degree of accuracy and clarity in presentation. A review of existing similar projections has shown that there are none available which meet the need adequately. The objective of this proposal is to provide these necessary tools by utilizing the capabilities of [REDACTED] to produce projections which the Cartography Division sorely needs but lacks the man-hours to assign to their production.

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2. Origin and Policy Guidance

a. Origin: The proposed project is based on a demonstrated continuing need in the OHR research program for ready-made cartographic tools which will permit a more effective analysis and presentation of important data in contributions to CIA intelligence reports, plans and estimates.

b. Whence Proposed: Headquarters

3. Situation: The Office of Research and Reports has primary responsibility for the production of intelligence maps in support of national estimates and CIA research studies, operational plans, and current intelligence reports. In order to fulfill requests placed on it by the Office of Communications and DD/P, the Cartography Division must frequently use map projection having unique properties adaptable to the solution of highly technical problems of plotting missile and radio communications data in the area of the Sino-Soviet Bloc. This activity involves: the plotting of ranges and bearings of electronically observed radio transmitters; plotting of missile tracks from telemetry derived data; plotting of radio communications links and nets and electronic warfare operations (ECW, subversion). Available base maps for the solution of these problems are largely non-existent and the production of necessary bases at the time of need is impractical.

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The proposed series of special projection maps to be produced by [REDACTED] is an effort to secure for immediate and future use a series of base maps which would be adaptable to the solution of a variety of problems arising in the field of communications and missile intelligence.

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The proposed project includes the preparation of 17 map bases: 12 azimuthal equidistant maps centered on various points selected by the Office of Communications, 2 oblique gnomonic maps, and 3 stereographic equatorial hemisphere projections.

The azimuthal equidistant projection, based on selected centers, is the best projection devised for plotting data from a central point with a relatively high degree of accuracy. It is especially adapted to the plotting and planning of radio communications and electronic warfare operations as it permits rapid determination of distances from selected transmission points to selected targets, and aids in the preparation of plans for exploitation of the targets.

The oblique gnomonic projection, which is especially designed for the drawing of arcs of great circles as straight lines, permits the ready determination of missile trajectories (tracks or courses) by the plotting of a large amount of range and bearing data simultaneously and sequentially collected through electronic means.

The stereographic-equatorial hemisphere maps will be used primarily in the Chapter I summary map used in the National Intelligence Survey program. These three maps will complete the Division stereographic coverage of the world and will be used in plotting of circular ranges to show relative locations and distances.

25X1A5a1 4. Proposal: It is proposed that ORR be authorized to contract with [REDACTED], for the compilation of 17 selected unclassified special map projections at scales ranging from 1:24,000,000 to 1:40,000,000. These maps will cover appropriately chosen units of the earth's surface based on the fact of continuing intelligence requirements. The coverage of each individual projection will be approved by ORR and compilation will be done by the [REDACTED] 25X1A5a1 from unclassified sources available in its own library and the CIA Map Library. Final drafting will be done on a sheet-by-sheet basis and CIA will be provided with color separation drawings on a stable base ready for reproduction as they are completed.

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5. Operational Outline:

a. Subproposals or "Tasks". The proposed project will be accomplished in two steps:

(1) Step 1 is to be initiated in Fiscal Year 1960 and will cover approximately 14 months and will involve the mathematical computation of each of the 17 projections, the compilation of evaluated data on hydrography, international boundaries, cities and towns. All names of features shown on these maps will be according to the systems and decisions of the Board on Geographic Names.

(2) Step 2 will probably be initiated during the first half of Fiscal Year 1962 and will cover about 4 months for its completion. This step will involve the final drafting of the special projections and the preparation of reproduction materials for each of the projections. The order in which the projections are to be completed will be determined on the basis of priorities existing at the time this step is begun.

b. Key personnel. The project will be under the direction of the Chief Cartographer of [REDACTED], and will use no personnel other than those on the permanent cartographic staff of [REDACTED]

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c. Indigenous groups and/or leaders. N.A.

d. Target groups. N.A.

e. Duration. It will require approximately 18 months to complete the project.

f. Graphic illustrations. This project entails the compilation and production of the special map projections.

6. Security:

a. Cover. The project will be completely unclassified; hence, no cover arrangements will be required.

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c. Operational Security. Contact with CIA will be through the Director or the Chief Cartographer of [REDACTED] Security problems will be minimized as the proposed project is completely unclassified. As a continuation of past agreements with the Army Map Service, and with the CIA, [REDACTED] would desire to publish, at its own expense, these special purpose projections for sale to the general public without identifying CIA as the sponsor. 25X1A5a1

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d. Risks. No undue reactions or repercussions are anticipated as a result of CIA interest in the project becoming known outside the group of persons working on or assisting in the project. No agency interest in areas or subjects would be revealed beyond that already indicated in the mission of the CIA as stated in legislative acts and openly published sources.

e. Personnel disposal. W. A.

f. Disaster plan. W. A.

7. Coordination:

a. Relation to other projects. The proposed project is related to the continuing CIA production of National Intelligence Survey maps and other special subject maps in the fields of Unconventional Warfare, area analysis, economic and scientific intelligence, current reporting, national estimates, and to requirements of the Office of Communications and the DD/P. It augments for specific Agency map requirements the various special purpose map projections produced by the Army Map Service, Aeronautical Chart and Information Center, and the Hydrographic Office.

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b. Significance within over-all program in the Area. The proposed project will fill a gap in the cartographic resources available to the CIA. There is a long-standing need for medium and small scale special purpose map projections on which to present certain kinds of data most effectively which involve the drawing of straight lines representing great circles and the drawing of circles on maps which are also circles on the surface of the earth. These map projections will permit the ready drawing of such figures without recomputing their alignment in each case to fit an existing but inadequate map projection; it will also provide projections for which resources in terms of man-hours are not available in ORR. The availability of these projections will permit the production of a better, more accurate and readily understandable intelligence product at a savings in time and effort under conditions of short deadlines; it will also increase the quality of map support and map reference materials available to personnel of the intelligence community.

c. Extent of Coordination. Informal coordination of this project within CIA and with other map producing offices and libraries has shown that map projections of the nature and scale required are not in existence or available for our use. When completed, the map projections contemplated under this proposal will be made available to other agencies which have a need for them.

8. Control:

25X1A5a1 a. Nature of. The proposed project will be under the direction of the [REDACTED] and will
25X1A9a be monitored by [REDACTED], Chief, Cartography Division, ORR.

25X1A5a1 b. Administrative plan. The proposed project will be supervised administratively by [REDACTED] K1A5a1
[REDACTED] and the Chief, Administrative Staff, ORR, will oversee the project on behalf of CIA.

c. Reports. Progress reports will be made by the contractor to the project monitor on a quarterly basis. The final report will be accompanied by the last of the completed reproduction materials.

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9. Budget Data:

25X1A1a a. Total over-all CIA funds required for Fiscal Year 1960:
[REDACTED] (to be available until completion of the project--approximately 31 December 1961). The contractor's breakdown of the estimated cost is as follows:

Professional services
Travel
Drafting materials
Overhead @ 40% on direct labor

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25X1A1a b. Availability of CIA funds required: The required funds [REDACTED] are available within the ORR funds approved for Fiscal Year 1960. Although funds were not included for this specific project in the approved ORR Operating Budget for Fiscal Year 1960, the required funds have been made available through adjustments in planned expenditures within the Office for the remainder of the current Fiscal Year.

c. Non-CIA funds. N.A.

d. Foreign currency. N.A.

e. Funding. The comptroller's office will release funds on a quarterly basis as billed by the contractor and approved by ORR.

f. Financial history. There is no previous Agency financial history.

g. Future requirements. None.

10. Support Data:

a. Total CIA personnel. None.

b. Training. N.A.

c. Material. The contractor may wish to utilize unclassified maps and map materials available through or from the CIA Map Library. This can be accomplished by the loan of maps or the production of photo copies for his use; other material is to be supplied by him.

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d. Communications. Necessary communications concerning this proposed project will be handled by direct ORR contact with the project director. On occasion, in the past, communications have been made through the [REDACTED]

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[REDACTED] this channel may be used if the need should arise.

e. Other CIA support. The Agency reproduction facilities will be utilized to print the maps from the reproduction materials prepared by the contractor. This will not present any unusual burden on these facilities.

f. Support required from other United States agencies. No other United States Government agency will be required to give support to this project.

11. General Considerations

a. Current status. This project has been discussed informally within ORR. [REDACTED]

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[REDACTED] the project and has submitted a written proposal to that effect.

b. Commitments. No commitments have been made. No termination problems are expected.

c. Effectiveness. N.A. (Project not yet operative)

d. Anticipated results. This project, when completed, will place in the hands of the Cartography Division a necessary cartographic tool which it has the skill to produce but does not have the time to devote to its production. It will enable the Cartography Division to supply more accurate and clearly understandable intelligence of certain kinds, especially to the Office of Communications and to the DD/P, in a form that is not now readily practical and at a considerable saving of time over that consumed in present improvisations. The high repute and proven competence of the cartographers in the [REDACTED]

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[REDACTED] and their experience with various map projections give reasonable assurance of desirable performance and a most satisfactory product.

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e. Evaluation. The project will be reviewed by the Chief, Cartography Division, ORR. No special support is required for evaluation. Effectiveness will be demonstrated in an increased speed and suitability of response to requests for cartographic support in certain intelligence problems.

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f. Policy questions. As in the past, [redacted] may desire to publish copies of these maps at its own expense for sale to the general public. Sheets published by [redacted] would not identify CIA as sponsor. [redacted] would request that dissemination of sheets published by CIA be limited to United States Government agencies.

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g. Congress. No Congressional implications are anticipated.

h. Extra-Agency action. The map projections which would result from this project are necessary to the proper fulfillment of certain recurring requests from the Office of Communications, the DD/P and other requesters. The present available cartographic resources of the ORR are fully committed to the production of special subject maps, support of various high-priority intelligence projects, and cannot devote the time necessary to produce these projections. No other known government agency has produced the required projections. [redacted] possesses the necessary competence and capabilities to carry out this project, so an external research project with [redacted] is proposed as providing the most practical means for acquiring these necessary maps in the foreseeable future.

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i. Proprietary companies. N.A.

j. Special considerations. N.A.

k. Liquidation. No problems are expected at liquidation.